L16: Entry 1 of 19 File: USPT

DOCUMENT-IDENTIFIER: US 6403315 B1
TITLE: Method and apparatus for DNA sequencing and DNA identification

Detailed Description Text (123):
Using the described theoretical principles as a guide for experiments, reliable hybridizations have been obtained with probes six to eight nucleotides in length. All experiments were performed with a floating plastic sheet providing a film of hybridization solution above the filter. This procedure allows maximal reduction in the amount of probe, and thus reduced label costs in dot blot hybridizations. The high concentration of sodium lauroyl sarcosine instead of sodium lauroyl sulfate in the phosphate hybridization buffer allows dropping the reaction from room temperature down to 12.degree. C. Similarly, the 4-6.times.SSC, 10% sodium lauroyl sarcosine buffer allows hybridization at temperatures as low as 2.degree. C. The detergent in these buffers is for obtaining tolerable background with up to 40 nM concentrations of labelled probe. Preliminary characterization of the thermal stability of short oligonucleotide hybrids was determined on a prototype octamer with 50% G+C content, i.e. probe of sequence TGCTCATG. The theoretical expectation is that this probe is among the less stable octamers. Its transition enthalpy is similar to those of more stable heptamers or, even to probes 6 nucleotides in length (Bresslauer et al., Proc. Natl. Acad. Sci. U.S.A. 83: 3746 (1986)). Parameter T.sub.d, the temperature at which 50% of the hybrid is melted in unit time of a minute is 18.degree. C. The result shows that T.sub.d is 15.degree. C. lower for the 8 bp hybrid than for an 11 bp duplex [Wallace et al., Nucleic Acids Res. 6: 3543 (1979)].

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ		
L17	breslauer	228	L17
L16	breuslauer	0	L16
L15	enthalpy same nucleic same acid same duplex	19	L15
L14	screen$ adj thermostab$ same equil$ same duplex	0	L14
L13	screen$ same thermostab$ same equil$ same duplex	0	L13
L12	thermostab$ same (mismatch$ or exocyclic or polymorph$) same duplex same thermal	0	L12
L11	screen$ same nucleic$ same acid same duplex$ same stability adj label$ adj energ$	0	L11
L10	screen$ same nucleic$ same acid same duplex$ same stability adj label$ adj FET	0	L10
L9	screen$ same nucleic$ same acid$ same duplex$ same stability adj label$ adj FET	0	L9
L8	screen$ same nucleic same acid same duplex same stability adj label$ adj FET	0	L8
L7	screen$ same nucleic same acid same duplex same stability same label$ same FET	1	L7
L6	screen$ same nucleic same acid same duplex same stability same label$	7	L6
L5	screen$ same nucleic same acid same duplex same stability and equil$	7	L5
L4	screen$ same nucleic same acid same duplex same stability and equilibra	0	L4
L3	screen$ same nucleic same acid same duplex same stability adj equilibra	0	L3
L2	screen$ same nucleic same acid same duplex same stability same equilibra	0	L2
L1	screen$ same nucleic same acid same duplex same stability	13	L1

END OF SEARCH HISTORY

Maupin, Christin

To: STIC-ILL
Subject: screening nuclei acid duplex stabily 09/869004

Sensitivity: Private

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